DOCUMENT RESUME

ED 244 384 EA 016 819

TITLE Educational Excellence for Iowa. Final Report of the Joint Committee on Instructional Development and Academic Articulation in Iowa.

INSTITUTION Iowa State Board of Regents, Des Moines.; Iowa State Dept. of Public Instruction, Des Moines.

PUB DATE Feb 84

NOTE 30p.

PUB TYPE Legal/Legislative/Regulatory Materials (090) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS *Access to Education; *Articulation (Education); *Competency Based Education; Educational Cooperation; *Educational Improvement; Elementary Secondary Education; General Education; Individualized Instruction; Interschool Communication; Postsecondary Education; *Process Education; Relevance (Education); Skill Development; *State Programs; Teacher Improvement

IDENTIFIERS *Iowa

ABSTRACT

This report recommends measures to improve elementary, secondary, and postsecondary education in Iowa while providing universal access to education. The proposal stresses unified goals throughout the state's educational system, while retaining local discretion over curriculum. Although the report emphasizes high school-to-college articulation, it recommends uniform competencies for all students to prepare them for life and work as well as for college. These competencies, drawn from the College Board's 1983 report on college preparation, are conceived as broad intellectual skills rather than absolute achievements. The report consists of six sections, as follows: (1) an executive summary; (2) an introduction, explaining the background and scope of the report; (3) an explanation of the report's objectives and a review of relevant literature, including an outline of proposed competencies in reading, writing, speaking and listening, mathematics, reasoning, and studying; (4) 17 recommendations, mostly for specific types of articulation; (5) a closing summary; and (6) an appendix describing the objectives, operation, and membership of the committee that compiled this report. (MCG)

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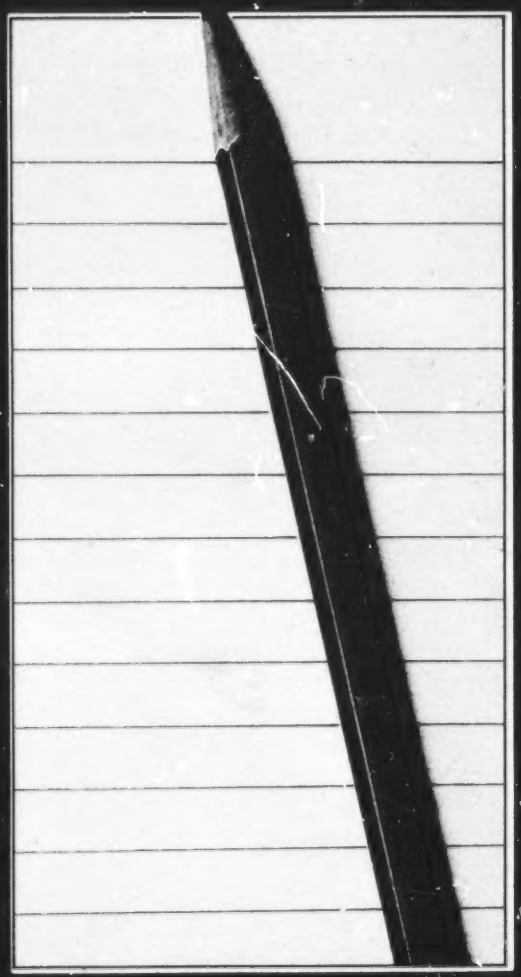

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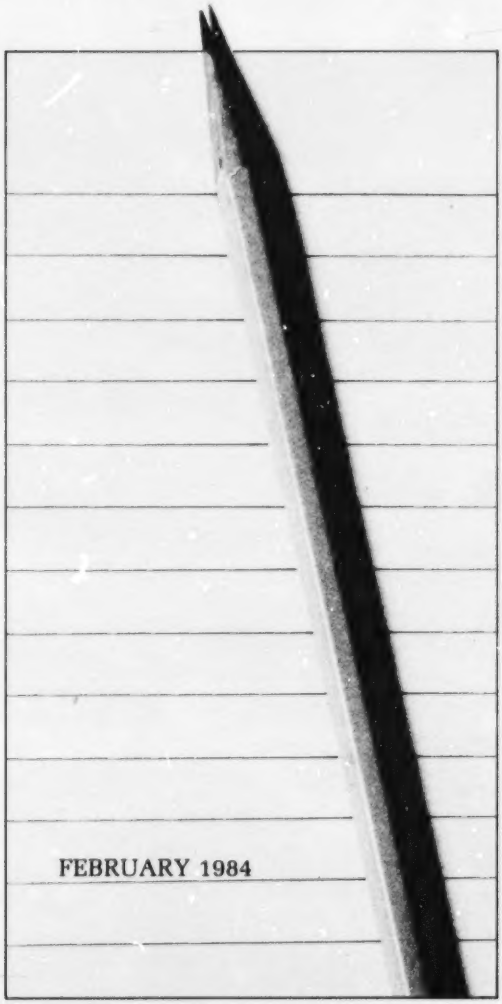

FINAL REPORT OF THE JOINT COMMITTEE
ON INSTRUCTIONAL DEVELOPMENT
AND ACADEMIC ARTICULATION IN IOWA

Iowa State Board of Regents and
the Department of Public Instruction
Des Moines, Iowa

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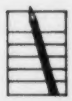

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EXECUTIVE SUMMARY

The Joint Committee on Instructional Development and Academic Articulation in Iowa, established by the State Board of Regents and the State Board of Public Instruction, was charged with exploring ways and means of facilitating continued development of instruction and articulation in the schools, colleges, and universities of Iowa. After intensive deliberations and study, the committee concludes that improved instruction and articulation will result from the adoption of a unified set of graduation competencies for Iowa high school students.

These competencies are in the following general areas: reading, writing, speaking and listening, mathematics, reasoning, and studying. The committee further concludes that these competencies should be accepted as a set of unified goals providing basic preparation for life, for work, and for further education. Their attainment will provide knowledge, skills, and attitudes that will prepare high school graduates for effective citizenship, satisfying employment, and access to postsecondary education. A variety of curricular approaches can produce these competencies, a condition that is important in recognizing differences in the abilities and interests of students.

The joint committee makes the following specific recommendations:

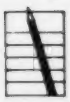
1. General Applicability of Basic Academic Competencies

While recognizing that basic abilities of students will vary, the joint committee recommends for all Iowa high school students the fundamental educational competencies suggested by the College Entrance Examination Board (College Board) report, *Academic Preparation for College*,* and further recommends that students, educators, and parents work together to develop these competencies.

2. The Role of Parents and the Family in the Development of Basic Academic Competencies

The joint committee urges educational policymakers to stress the important role of parents and families in creating a proper home environment that would foster the ultimate achievement of the recommended educational competencies. The articulation of children from the home to school environment is a critical step toward the attainment of such competencies. The partnership among parents, families, and schools should be strengthened in every possible way throughout the educational experience in order to establish and maintain a foundation for the intellectual development of children.

*see pages 12-15.



3. The Role of Student Choice in Determining Educational Quality

The joint committee believes that student choice is a particularly important factor in academic articulation, a factor that is often minimized or overlooked completely. Students should recognize their important responsibility for carefully making educational choices that will improve future educational and employment opportunities through the development of basic educational competencies. These choices must be exercised in partnership with families, schools, and other institutions.

4. Educational Planning for the Individual Student

The joint committee recommends that schools and colleges seek to ensure the availability and accessibility of general advisory and counseling services to students as they plan their futures. The full development of student competencies will require the allocation of resources to such activities in addition to instruction in individual subjects.

5. Articulation from Elementary to Secondary School

The joint committee recommends that local educational agencies, in cooperation with the Department of Public Instruction, give careful attention to the development of basic competencies in elementary school and the articulation of these competencies with secondary school. The committee further recommends that schools develop and support both formal and informal mechanisms, including, where appropriate, networks of administrators, teachers, and others in order to enhance the transition from elementary to secondary school.

6. Intradisciplinary Communication between Schools and Colleges

The joint committee recommends that the Department of Public Instruction, working with the Iowa Board of Regents, the Iowa Association of Independent Colleges and Universities, the Iowa Private Specialized Schools Association, community colleges, the Iowa Coordinating Council for Post-High School Education, and other professional organizations review, encourage, and expand intradisciplinary articulation in Iowa.

7. Admission Practices at Iowa Colleges and Universities

The joint committee recommends that Iowa colleges and universities review carefully the recommendations contained in the College Board publication entitled *Academic Preparation for College*. The competencies suggested in this document are appropriate for college entry. The committee recommends study of them by admission officers, administrators, and faculty members, directed toward possible modification of admission requirements. Open-entry colleges should also review these competencies and identify and remove deficiences as a part of their regular curricula.

8. Teacher Exchange among Educational Levels

The joint committee recommends that the Department of Public Instruction, working with the Iowa Board of Regents, the Iowa Association of Independent Colleges and Universities, the Iowa Coordinating Council for Post-High School Education, and other professional organizations seek to increase opportunities for teacher exchange among various levels of instruction.

9. Articulation across the Curriculum (Horizontal Articulation) of Instruction in the Development of Communication Skills

The joint committee recommends that teachers and administrators at all educational levels and in all subjects seek opportunities to improve the communication skills of their students and to improve their own abilities in this area.

10. Horizontal Articulation of Quantitative Reasoning

The joint committee recommends that educators at all levels and in all subjects provide students with the quantitative background necessary for effective citizenship. Quantitative reasoning should be horizontally articulated across educational levels and subjects and should be adequately represented in teachers' own academic preparation.

11. Articulation from Community Colleges to Four-Year Colleges

The joint committee recommends that community colleges and four-year colleges and universities maintain and enhance existing formal arrangements related to articulation and transfer of students. There may be the possibility in some instances of expanding these formal arrangements to include the articulation of graduates of career option programs. Formal arrangements should be supplemented by an increased emphasis on informal relationships among community college faculties and their counterparts in four-year colleges and universities. It is important that these institutions cooperate to the maximum feasible extent in order to avoid unnecessary duplication of curricula and to provide the best possible educational opportunities for citizens of the state.

12. Teacher Education Programs

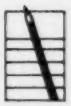
The joint committee recommends that teacher education institutions give increased emphasis to the responsibility of teachers for vertical and horizontal articulation. These institutions should strengthen efforts to provide teachers in training with knowledge, skills, and attitudes reflecting the need for continued progress by students toward achieving the recommended educational competencies.

13. Role of College and University Faculties in Academic Articulation

The joint committee recommends that Iowa colleges and universities accept and implement a continuing role in academic articulation for their faculties. Faculty members should devote appropriate effort to communicate with their colleagues at all other educational levels for the purpose of improving the transition of students through the system.

14. CLEP Examinations

The joint committee recommends that Iowa colleges and universities work through the Iowa Coordinating Council for Post-High School Education to increase the utilization of the College-Level Examination Program (CLEP) and the Advanced Placement Program. The committee also recommends that educators encourage students to develop a level of competency allowing them to take full advantage of the examination programs consistent with the specific requirements of the institutions to which they seek admission.



15. Unusually Able Students

The joint committee recommends that special opportunities for the development of unusually able students be expanded by the joint efforts of colleges, secondary schools, and elementary schools. The development of human resources in Iowa should be enhanced not only by special programs but also by efforts tailored to the individual student.

16. Development of Computer Competency

The joint committee recommends that schools provide opportunities for students to develop the computer competencies listed in chapter 3 of the College Board document, *Academic Preparation for College.*

17. Financial Support for Instructional Development and Academic Articulation

The Joint Committee on Instructional Development and Academic Articulation in Iowa recommends that policymakers—including the governor, state legislators, directors of executive branch departments, and community leaders—recognize the importance of achieving excellence in education for Iowa. The committee further recommends that these policymakers, in establishing this priority for educational excellence, allocate the funds necessary to achieve this goal.

INTRODUCTION AND SCOPE OF REPORT

America's attention has been drawn forcefully to issues of academic quality, equity, and excellence by a series of recent reports from various official and voluntary groups. Such publications as *A Nation at Risk . . . The Imperative for Educational Reform*, produced by the National Commission on Excellence in Education and published in April 1983, have called attention to a situation characterized by many observers as a crisis in U.S. education. Concern in Iowa for educational issues has been continuous and reflects the high priority Iowans place on their own education and that of their children. Iowans are proud of having the highest literacy rate in the nation—and of an excellent network of private and public educational institutions.

In preparing this report, the Joint Committee on Instructional Development and Academic Articulation in Iowa reviewed a large volume of background material, including reports of similar task forces in other states. Data concerning the performance of Iowa elementary and secondary school students were also carefully considered. Concurrent with committee deliberations, additional reports and documents were produced by many other organizations, and these, too, were reviewed for possible relevance to the committee's task. While detailed discussion of such information is not included in this report, the committee acknowledges its debt to the many individuals whose efforts have produced an intensive dialogue concerning the place and quality of education in the United States. Without these efforts, the task of the joint committee would have been much more difficult.

Several reports have seemed particularly relevant. They will be presented in detail. The committee, however, accepts full responsibility for the views expressed in this document and welcomes the opportunity to participate in continuing discussion of these important topics.

Academic articulation in a formal sense is concerned with the preparation of elementary school students as they move toward secondary education and with the preparation of secondary school graduates as they move into postsecondary education. In addition to these two major phases of articulation, however, there are also transitions from elementary to middle school or junior high school and then to senior high school, transitions from senior high school to community or specialized college, and from community or specialized college to a four-year college, and finally transition from undergraduate higher education to graduate and professional school.

The transitions to and from middle school or junior high school and from undergraduate higher education to graduate and professional school receive little attention in this report. The committee believes that transitions involving middle or junior high school are not qualitatively different from the transition between elementary and secondary school.

Transition to graduate or professional education presents uniquely complicated problems. For example, access to medical education depends on the perceived need of society for trained physicians. This need varies according to geographic area, temporal de-

mands, and the need for particular medical specialties. In the case of transition to graduate and professional programs in engineering, law, business, and other graduate fields, market cycles and demand also play an important role. Neither the composition of the committee nor the time available for its deliberations permitted an adequate review of the many and complex issues surrounding articulation from undergraduate to graduate and professional education.

Finally, in the sections of this report which follow, it will be noted that the committee's specific recommendations vary according to several factors. Some recommendations will require the expenditure of new funds. Many, in fact most of them, can be accomplished with little or no such expenditure. While the committee believes strongly that one of the major problems with the present educational system is the generally low pay of teachers, it also believes that many improvements can be made at low cost.

The committee stresses the achievement of a fundamental set of educational competencies as the appropriate focus for discussions directed toward the improvement of education in Iowa and the United States. Similar committees and task forces in other states have called for specific curricular arrangements, e.g., specific numbers of years of English, mathematics, and science in secondary school. This committee has taken a different approach, one that emphasizes competencies of graduates of the educational system. The attainment of these basic competencies thus becomes the major emphasis of the educational system. While these competencies are listed in detail only for graduates of secondary schools, the concepts underlying this approach are more general. In emphasizing graduation competencies, the committee believes that it is focusing on the major portion of its charge and that improvements in this area are most likely to be translated into improvements in academic articulation.

BASIS FOR COMMITTEE RECOMMENDATIONS

Articulation from high school to college, the basic subject of this report, often is based on the assumption that high school preparation for the college-bound must be substantially different from preparation for other students. This report calls that assumption into question. Today's high school graduates are entering a world in which the requirements for effective citizenship, for a rewarding life, and for enhanced employment opportunities all demand basic intellectual skills in communication, quantitative reasoning, and other fundamental areas.

Americans have traditionally placed a high value on universal access to education. Yet individual students vary greatly in the rate at which they can attain given educational objectives. Recognition of this fact has often led to the development of separate curricula. The decision to provide specific educational programs focusing on vocational, general, or college preparatory objectives should provide opportunities for students to acquire basic educational competencies and, conversely, should not limit access to educational experiences leading to these competencies. The common goal of secondary education should be the acquisition of basic skills and understandings. Some students may require a shorter and some a longer amount of time to acquire the basic competencies. Ultimately, school systems should recognize this fact and introduce sufficient flexibility in curricular length and intensity to permit achievement of this goal by the large majority of students. Curricular enrichment is also highly desirable and provides vocational, artistic, and other special emphases as well as extended advanced work in particular disciplinary areas. These emphases must not be lost in any effort to modify the present educational system.

At a time when intellectual demands for effective life, work, and further education are increasing, overspecialization, if accompanied by a de-emphasis on basic competencies, can create substantial risks, particularly if it occurs too early. Students whose personal educational goals change at a relatively late stage may find, for example, that their prior preparation has made it difficult or even impossible to pursue a program consistent with those goals. Thus, inappropriate or inadequate educational experiences can close options and limit the development of students' learning potential.

While differences of emphasis in the preparation of college-bound and non-college-bound high school students will continue, the ever-increasing demands of society are working to diminish those differences. More precisely, the learning abilities required of the non-college population are increasing rapidly, with the result that increases in intellectual capacity and the ability to learn, as well as improved knowledge and skills will be needed by all high school graduates. Efficient and effective citizenship, opportunities provided by the computer age, and the need to appreciate international issues in a rapidly shrinking world demand of all graduates increased technical and special competence. Essentially, while many jobs will not require college-level preparation, the ability to reason, to think, and to process information from many sources will place increasing demands on all high school graduates.

Moreover, it is impossible to predict whether a student will or will not seek a college education. A pamphlet, designed for all California eighth graders and prepared by a consortium entitled the California Round Table on Educational Opportunity, has described this situation well.

- *If there is even a remote possibility that you will want college in your future, now is the time to get ready. By taking the right high school classes, you will be prepared if you decide to go.*
- *The classes you take in ninth grade prepare you for tenth. Tenth grade classes prepare you for eleventh, and so on. They all work together to prepare you for your future. . . . The reasons are clear when you consider the advanced training and knowledge necessary for so many kinds of jobs today—and so many more jobs predicted for the future.*
- *Even if you decide not to go to college, you will still use the information and skills you learn in those classes. Everybody, in every kind of job, needs to be able to express and understand ideas. Writing and speaking clearly, listening carefully, understanding what is read, and using mathematics effectively, are skills that everybody needs.*
- *Take the classes that give you skills and you won't take chances with your future.*
- *Who knows what the future will bring? Some kids shut themselves off from wonderful future possibilities because of maybes. Maybe college is too expensive, maybe college work is too hard, maybe I won't fit in, maybe my family is depending on my help. Don't let a "maybe" prevent you from preparing. Many students in college today are the first in their families to go. Many pay their own way through special grants, loans, scholarships, and part-time jobs. In another five years, you might be one of those students. There's lots of help for students who want college—so long as they use high school to get ready.*

The joint committee subscribes to the views expressed in the California document. Preparation for life, for vocation, and for college must be more closely integrated, since future decades will see an increase in the competencies needed by all graduates. Thus, the knowledge, skills, and abilities provided by the high school curriculum recommended for articulation with college should be a goal for all students, who should be encouraged to approach these fundamental competencies as closely as their abilities permit.

The College Board in July of 1983 released a publication entitled *Academic Preparation for College: What Students Need to Know and Be Able to Do*. The joint committee supports the recommendations contained in this document. The process leading to the College Board document involved detailed review by high school and college teachers and administrators. Throughout the development process, two themes were emphasized: quality and equality. Thus, the project itself was entitled "The Educational EQuality Project," with both the *E* and *Q* in *EQuality* capitalized. Symposia and meetings were held nationwide in order to develop recommendations that would represent a broad national consensus emphasizing excellence in educational preparation and access by all students to the competencies needed in future life.

The joint committee believes that the material in the report provides a basis for discussions in Iowa leading to the improvement of the quality of education at secondary and postsecondary levels.

Chapter two of the College Board report lists basic academic competencies that "are the broad intellectual skills essential to effective work in all fields of college study." The joint committee believes that these competencies constitute not only essential preparation for college but for life and work as well, and that they should be developed by the educational programs of all high school students. These competencies, however, are not absolute, but continuous. For example, items under the heading "reasoning ability" can be achieved at different levels, each constituting adequate preparation for college.

The basic competencies recommended by the College Board are

Reading

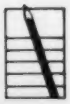
* *The ability to identify and comprehend the main and subordinate ideas in a written work and to summarize the ideas in one's own words.*
* *The ability to recognize different purposes and methods of writing, to identify a writer's point of view and tone, and to interpret a writer's meaning inferentially as well as literally.*
* *The ability to separate one's personal opinions and assumptions from a writer's.*
* *The ability to vary one's reading speed and method (survey, skim, review, question, and master) according to the type of material and one's purpose for reading.*
* *The ability to use the features of books and other reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, bibliography.*
* *The ability to define unfamiliar words by decoding, using contextual clues, or by using a dictionary.*

Writing

* *The ability to conceive ideas about a topic for the purpose of writing.*
* *The ability to organize, select, and relate ideas and to outline and develop them in coherent paragraphs.*
* *The ability to write Standard English sentences with correct sentence structure; verb forms; punctuations, capitalization, possessives, plural forms, and other matters of mechanics; word choice and spelling.*
* *The ability to vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.*
* *The ability to improve one's own writing by restructuring, correcting errors, and rewriting.*
* *The ability to gather information from primary and secondary sources; to write a report using this research; to quote, paraphrase, and summarize accurately; and to cite sources properly.*

Speaking and Listening

* *The ability to engage critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.*
* *The ability to answer and ask questions coherently and concisely, and to follow spoken instructions.*
* *The ability to identify and comprehend the main and subordinate ideas in lectures and discussions, and to report accurately what others have said.*
* *The ability to conceive and develop ideas about a topic for the purpose of speaking to a group; to choose and organize related ideas; to present them clearly in Standard English; and to evaluate similar presentations by others.*
* *The ability to vary one's use of spoken language to suit different situations.*



Mathematics

- *The ability to perform, with reasonable accuracy, the computations of addition, subtraction, multiplication, and division using natural numbers, fractions, decimals, and integers.*
- *The ability to make and use measurements in both traditional and metric units.*
- *The ability to use effectively the mathematics of integers, fractions, and decimals; ratios, proportions, and percentages; roots and powers; algebra; and geometry.*
- *The ability to make estimates and approximations, and to judge the reasonableness of a result.*
- *The ability to formulate and solve a problem in mathematical terms.*
- *The ability to select and use appropriate approaches and tools in solving problems (mental computation, trial and error, paper-and-pencil techniques, calculator, and computer).*
- *The ability to use elementary concepts of probability and statistics.*

Reasoning

- *The ability to identify and formulate problems, as well as the ability to propose and evaluate ways to solve them.*
- *The ability to recognize and use inductive and deductive reasoning, and to recognize fallacies in reasoning.*
- *The ability to draw reasonable conclusions from information found in various sources, whether written, spoken, or displayed in tables and graphs, and to defend one's conclusions rationally.*
- *The ability to comprehend, develop, and use concepts and generalizations.*
- *The ability to distinguish between fact and opinion.*

Studying

This set of abilities is different in kind from those that precede it. They are set forth here because they constitute the key abilities in learning how to learn. Successful study skills are necessary for acquiring the other five competencies as well as for achieving the desired outcomes in the Basic Academic Subjects. Students are unlikely to be efficient in any part of their work without these study skills.

- *The ability to set study goals and priorities consistent with stated course objectives and one's own progress, to establish surroundings and habits conducive to learning independently or with others, and to follow a schedule that accounts for both short- and long-term projects.*
- *The ability to locate and use resources external to the classroom (for example, libraries, computers, interviews, and direct observation), and to incorporate knowledge from such sources into the learning process.*
- *The ability to develop and use general and specialized vocabularies, and to use them for reading, writing, speaking, listening, computing, and studying.*
- *The ability to understand and to follow customary instructions for academic work in order to recall, comprehend, analyze, summarize, and report the main ideas from reading, lectures, and other academic experiences; and to synthesize knowledge and apply it to new situations.*
- *The ability to prepare for various types of examinations and to devise strategies for pacing, attempting or omitting questions, thinking, writing, and editing according to the type of examination; to satisfy other assessments of learning in meeting course objectives such as laboratory performance, class participation, simulation and students' evaluations.*
- *The ability to accept constructive criticism and learn from it.**

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In chapters 3 and 4 of the College Board report the basic academic areas—English, the arts, mathematics, science, social studies, foreign language, and computer skills—are dissected, and the competencies to be acquired from study of these disciplines are presented in detail. The report does not recommend numbers of years of instruction, Carnegie units, or other such measures. It recognizes that there are many potential routes leading to the outcomes specified.

While the Joint Committee on Instructional Development and Academic Articulation in Iowa acknowledges that the report may not be complete in every respect, it nevertheless endorses and supports the College Board document, *Academic Preparation for College: What Students Need to Know and Be Able to Do*. The committee commends the report to everyone, especially those interested in improving secondary education and the articulation of education at that level with further academic preparation in community colleges, liberal arts colleges, and universities.

Supplementing the College Board report is a recent publication prepared by Organizations for the Essentials of Education, which contains the following statement:

More specifically, the essentials of education include, among others, the ability to use language, to think, and to communicate effectively; to use mathematical knowledge and methods to solve problems; to reason logically; to use abstractions and symbols with power and ease; to apply and to understand scientific knowledge and methods; to make use of technology and to understand its limitations; to express oneself through the arts and to understand the artistic expressions of others; to understand other languages and cultures; to understand spatial relationships; to apply knowledge about health, nutrition, and physical activity; to acquire the capacity to meet unexpected challenges; to make informed value judgments; to recognize and to use one's full learning potential; and to prepare to go on learning for a lifetime.

The joint committee subscribes to this statement as a useful complement to the others cited here.

RECOMMENDATIONS

RECOMMENDATION

General Applicability of Basic Academic Competencies

In view of the covergence of competencies needed for effective citizenship, for adequate and satisfying employment, and for admission to colleges and universities, the Joint Committee on Instructional Development and Academic Articulation in Iowa believes that Iowa high school students should be encouraged to develop the competencies outlined by the College Board and cited earlier in this report. Administrators, counselors, teachers, and parents should encourage all students to work toward those academic goals.

The committee recognizes that the rate at which students achieve these competencies will vary, and curricula and programs should take this into account. Every effort, however, should be made to avoid curricular options incapable of leading to the recommended educational competencies, since these competencies will be broadly useful as preparation for life, work, and higher education. Nevertheless, alternative courses, supplementary instruction, and other devices should be provided to assist students who progress at a relatively slower rate. Conversely, special opportunities for students who can move toward these goals more quickly should be provided.

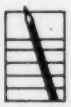
While recognizing that basic abilities of students will vary, the joint committee recommends for all Iowa high school students the fundamental educational competencies suggested by the College Board report, *Academic Preparation for College*, and further recommends that students, educators, and parents work together to develop these competencies.

RECOMMENDATION

The Role of Parents and the Family in the Development of Basic Academic Competencies

The educational development of a child occurs at a rapid rate in the first months and years of life. Unless a foundation for continued intellectual development is established during this period, formal educational experiences will be of reduced value. In addition to providing this basic foundation, the role of parents and the family throughout the period of formal education is critical, and families bear an important responsibility for the effectiveness of our schools because of the support or lack of support they provide.

The role of parents in expressing concern for education and learning as an important value for their children and the resulting provision



of appropriate role models is thus crucial to the educational process. Furthermore, parents and families bear a particularly heavy responsibility for the formation of attitudes, values, beliefs, and behaviors enhancing the development of the learning potential of their children. Articulation from the home environment into that of the school is thus critically important.

The joint committee urges educational policymakers to stress the important role of parents and families in creating a proper home environment that would foster the ultimate achievement of the recommended educational competencies. The articulation of children from the home to school environment is a critical step toward the attainment of such competencies. The partnership among parents, families, and schools should be strengthened in every possible way throughout the educational experience in order to establish and maintain a foundation for the intellectual development of children.

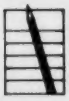
RECOMMENDATION

The Role of Student Choice in Determining Educational Quality

Educators at all educational levels have an important responsibility for maintaining and increasing the quality of education in Iowa. Education is a national priority attracting widespread discussion and pressure for change. This call for change emphasizes the role of the education community, and this emphasis is appropriate. Other institutions in society, including the family, also have an important role in improving the competencies of students as they move through various phases of their education.

Moreover, individual students exercise choices at many steps in the educational process, and these choices have a profound impact on future educational and employment options. Students choose the amount of effort they will devote to attaining a set of educational objectives, including whether to choose demanding courses, whether to study, whether to go beyond minimum classroom assignments, and whether to pursue intellectual leads suggested by individual curiosity. In addition to those choices affecting their entire high school experience, some students seek especially to reduce the amount of effort, the number of courses, and the difficulty of courses during their senior year in high school. This can cause articulation problems in mathematics and other fields in which continuous use of skills and recall of factual information are important. Students, in cooperation with educators, should select both programs and levels of effort providing appropriate preparation for college, for life, and for work.

In summary, although schools are the vehicles for providing formal education, they cannot do it all. Individual students bear a heavy responsibility for the quality, extent, and appropriateness of their own education.



The joint committee believes that student choice is a particularly important factor in academic articulation, a factor that is often minimized or overlooked completely. Students should recognize their important responsibility for carefully making educational choices that will improve future educational and employment opportunities through the development of basic educational competencies. These choices must be exercised in partnership with families, schools, and other institutions.

RECOMMENDATION 4

Educational Planning for the Individual Student

At educational levels beyond the first years of elementary school, teachers become increasingly specialized. Such specialization may make it difficult for teachers to help students with the necessary planning for transition from school to life, work, or further education. For this reason, the committee believes that individuals with a major commitment to advising the student in a comprehensive manner should be identified. Often, counselors play this role. Of particular importance, however, is the need to be sure that these services are appropriately provided.

The joint committee recommends that schools and colleges seek to ensure the availability and accessibility of general advisory and counseling services to students as they plan their future. The full development of student competencies will require the allocation of resources to such activities in addition to instruction in individual subjects.

RECOMMENDATION 5

Articulation from Elementary to Secondary School

Many of the basic competencies fundamental to a successful secondary school experience and therefore of importance to the articulation from secondary school to life, work, and further education, are developed during elementary school. These include basic background in study skills, communication, quantitative reasoning, social studies, science, and sometimes foreign languages and computer usage. Development of these competencies and therefore their articulation with secondary school is important.

The joint committee recommends that local educational agencies, in cooperation with the Department of Public Instruction, give careful attention to the development of basic competencies in elementary school and the articulation of these competencies with secondary school.

The committee further recommends that schools develop and support both formal and informal mechanisms, including, where appropriate, networks of administrators, teachers, and others in order to enhance the transition from elementary to secondary school.

RECOMMENDATION 6

Intradisciplinary Communication between Schools and Colleges

The committee recognizes that issues of academic articulation exist throughout the educational system. The present report considers general issues of articulation, but of necessity can only deal superficially with the many specific issues of particular relevance to a single academic discipline. English, mathematics, science, foreign language, social science, and other disciplines present special challenges and opportunities for academic articulation. Educators in these areas can benefit from interaction with their counterparts at other educational levels. Opportunities should be provided for elementary, secondary, community college, and university teachers to work together to improve the articulation of their subject matter throughout the educational cycle. In this manner, curricula can be strengthened, unnecessary duplication can be reduced, and learning effectiveness can be enhanced.

The joint committee recommends that the Department of Public Instruction, working with the Iowa Board of Regents, the Iowa Association of Independent Colleges and Universities, the Iowa Private Specialized Schools Association, community colleges, the Iowa Coordinating Council for Post-High School Education, and other professional organizations review, encourage, and expand intradisciplinary articulation in Iowa.

RECOMMENDATION 7

Admission Practices at Iowa Colleges and Universities

The College Board report, entitled *Academic Preparation for College*, has, as noted earlier, established an important and appropriate set of educational competencies to be achieved by students seeking entry to colleges and universities. Adoption of these competencies as recommended by the committee may suggest modification of admission standards of Iowa's postsecondary institutions.

Although the committee has recommended these competencies for high school graduates in Iowa as appropriate preparation for life, work, and further education, it is clear that

not all students will, at the time of graduation, achieve identical levels of competence. Some students will be able through advanced placement courses, CLEP examinations, and other methods to enter college with competencies beyond those required for admission. Such students may receive credit equivalency of up to one year of college work. Other students will graduate from high school with competencies lower than those expected by colleges.

College and high school administrators, counselors, and teachers should work together to manage the inevitable variations in high school preparation existing at the time of college entrance. Remedial courses, accelerated courses, summer sessions, developmental laboratories, learning centers, and other student support services should be provided and utilized to the fullest extent.

The joint committee recommends that Iowa colleges and universities review carefully the recommendations contained in the College Board publication entitled *Academic Preparation for College*. The competencies suggested in this document are appropriate for college entry. The committee recommends study of them by admission officers, administrators, and faculty members, directed toward possible modification of admission requirements. Open-entry colleges should also review these competencies and identify and remove deficiencies as a part of their regular curricula.

RECOMMENDATION

Teacher Exchange among Educational Levels

It is difficult for teachers at a given educational level to appreciate fully the problems of those working at other levels. For example, teachers of college freshmen may not understand the problems faced by their counterparts in similar disciplines at high school or elementary levels. High school teachers may not fully understand the problems faced by their counterparts at the collegiate or elementary levels. A continuing dialogue among instructors at various levels can enhance communication and improve academic articulation. Exchange of faculty members at various levels of education can provide opportunities for the improvement of student transfer and articulation through the educational system.

The joint committee recommends that the Department of Public Instruction, working with the Iowa Board of Regents, the Iowa Association of Independent Colleges and Universities, the Iowa Coordinating Council for Post-High School Education, and other professional organizations seek to increase opportunities for teacher exchange among various levels of instruction.

RECOMMENDATION

9

Articulation across the Curriculum (Horizontal Articulation) of Instruction in the Development of Communication Skills

Effective competencies in reading, writing, speaking, listening, understanding, and reasoning are basic to life, work, and higher education. At every educational level there may be a tendency to isolate these skills into a particular portion of the curriculum, for example, into English classes. While formal instruction in English is fundamental at elementary, secondary, and postsecondary levels, basic communication skills should be emphasized as modes of learning in every educational experience.

In the teaching of most subject matter areas, opportunities arise to stress the importance of proper and precise use of language. Moreover, writing is a particularly important vehicle for improving the clarity of reasoning and for enhancing the understanding of virtually any topic. Good writing provides a conceptual coherence to otherwise partly formed ideas, and students and teachers should make generous use of this powerful tool in all subjects.

Teachers of all courses have an opportunity and responsibility to serve as role models for students and to emphasize the importance of the development of communication skills. Teachers should help students develop such skills and help them appreciate the value of the skills by establishing a purpose for acquiring them. Teachers and administrators should also seek to improve their own performance in these areas. In summary, the development of these skills should be articulated horizontally across the total curriculum.

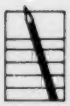
The joint committee recommends that teachers and administrators at all educational levels and in all subjects seek opportunities to improve the communication skills of their students and to improve their own abilities in this area.

RECOMMENDATION

10

Horizontal Articulation of Quantitative Reasoning

In a world increasingly marked by an emphasis on quantitative and statistical reasoning, the quantitative competency and general problem-solving abilities of high school graduates will be important to success in life, work, or higher education. The ability to reason in quantitative terms is an area which, like communication skills, should be em-



phasized across the educational programs of all students and not simply in mathematics courses. This demands both adequate preparation on the part of teachers of all subjects and emphasis across the full curriculum.

The joint committee recommends that educators at all levels and in all subjects provide students with the quantitative background necessary for effective citizenship. Quantitative reasoning should be horizontally articulated across educational levels and subjects and should be adequately represented in teachers' own academic preparation.

RECOMMENDATION 11

Articulation from Community Colleges to Four-Year Colleges

Much of the dialogue concerning academic articulation in Iowa has focused on the transfer from secondary to postsecondary education. This level of articulation is important. There is, however, another level, that from community colleges to four-year colleges and universities. The committee recognizes the substantial degree of coordination and communication that presently exists between Iowa's community colleges and other institutions of higher learning.

The joint committee recommends that community colleges and four-year colleges and universities maintain and enhance existing formal arrangements related to articulation and transfer of students. There may be the possibility in some instances of expanding these formal arrangements to include the articulation of graduates of career option programs. Formal arrangements should be supplemented by an increased emphasis on informal relationships among community college faculties and their counterparts in four-year colleges and universities. It is important that these institutions cooperate to the maximum feasible extent in order to avoid unnecessary duplication of curricula and to provide the best possible educational opportunities for citizens of the state.

RECOMMENDATION 12

Teacher Education Programs

Articulation efforts will be enhanced if teachers at all levels have a foundation enabling them to understand the scope and sequence of the total educational process. Articulation efforts depend upon the breadth of the education of teachers, the depth of knowledge of their own subject, and their ability to teach effectively. In achieving these

objectives in the preparation of teachers, the supervised student teaching experience is particularly important. This experience should be of adequate length and quality and should provide direct association with a highly competent supervising teacher. Moreover, all faculty members responsible for teacher preparation should themselves not only possess this recommended educational background but also teach it effectively. Finally, the achievement of the goal of improved articulation will require collaborative efforts within and among institutions of higher education offering teacher education programs, as well as continuous interaction with practicing school professionals.

The committee believes that effective articulation depends upon acceptance by teachers of the responsibility to assure an adequate fit between the subject taught and concurrent, earlier, and later educational experiences of students. It further believes that effective articulation is dependent on mastery of specified skills and knowledge by teachers at each educational level. This is especially important with respect to the basic academic competencies enunciated earlier in this report.

The joint committee recommends that teacher education institutions give increased emphasis to the responsibility of teachers for vertical and horizontal articulation. These institutions should strengthen efforts to provide teachers in training with knowledge, skills, and attitudes reflecting the need for continued progress by students toward achieving the recommended educational competencies.

RECOMMENDATION

Role of College and University Faculties in Academic Articulation

Faculties of colleges and universities in Iowa share with their colleagues at other educational levels a significant responsibility for the effectiveness of academic articulation throughout the educational system. Many faculty members perceive their sole responsibility to be that of the building and transmitting of information within their own academic discipline at the postsecondary level because the acquisition and dissemination of knowledge is the primary objective of faculty members in higher education. Furthermore, institutional reward systems place the highest value on teaching and scholarship. In spite of the restrictions of the reward system, which require university faculty to devote maximum effort to their own teaching and scholarship, substantial human resources remain available for the improvement of academic articulation in Iowa.

The joint committee recommends that Iowa colleges and universities accept and implement a continuing role in academic articulation for their faculties. Faculty members should devote appropriate effort to communicate with their colleagues at all other educational levels for the purpose of improving the transition of students through the system.

RECOMMENDATION 14

CLEP Examinations

The College-Level Examination Program (CLEP) and the Advanced Placement Program provide opportunities for high school students seeking entrance to college to take maximum advantage of advanced high school preparation. Many Iowa colleges and universities provide exemptions from courses for students who satisfactorily complete the examinations, although this varies substantially. Such programs can provide incentives for high school students to take courses leading to college credit equivalency, in turn providing access to a college program of greater depth or intensity.

Some students may be able to choose more advanced courses or to reduce the overall length of the program leading to a baccalaureate degree, thereby helping to contain the costs of higher education or to gain earlier entry to graduate or professional schools. From the point of view of the colleges and universities, an increase in the number of high school graduates providing such evidence of advanced high school preparation would be beneficial. Specific benefits include the ability to offer course work at more advanced and accelerated levels, a reduced need for courses and sections at elementary levels, and a general increase in the level of instruction provided.

The joint committee recommends that Iowa colleges and universities work through the Iowa Coordinating Council for Post-High School Education to increase the utilization of the College-Level Examination Program (CLEP) and the Advanced Placement Program. The committee also recommends that educators encourage students to develop a level of competency allowing them to take full advantage of the examination programs consistent with the specific requirements of the institutions to which they seek admission.

RECOMMENDATION 15

Unusually Able Students

The appropriate development of unusually able students places demands upon educational institutions at all levels. Such students are often able to reach advanced levels of competency, and it is particularly important that they be recognized as early as possible and assisted in developing their full potentials. The failure to develop adequately the talents and abilities of such individuals represents a substantial loss.

The joint committee recommends that special opportunities for the development of unusually able students be expanded by the joint efforts of colleges, secondary schools, and elementary schools. The development of human resources in Iowa should be enhanced not only by special programs but also by efforts tailored to the individual student.

RECOMMENDATION 16

Development of Computer Competency

At present, educational institutions at various levels are rapidly developing basic computer instruction. Appropriate competencies outlined in chapter 3 of the College Board document, *Academic Preparation for College*, will be essential to an ever-increasing number of students. The competencies include, in addition to the ability to use the computer, an appreciation of the importance of modern computational methods "in the academic disciplines and various fields of work, as well as in daily life." The committee believes that the development of such skills should begin early in the educational process.

The joint committee recommends that schools provide opportunities for students to develop the computer competencies listed in chapter 3 of the College Board document *Academic Preparation for College*.

RECOMMENDATION 17

Financial Support for Instructional Development and Academic Articulation

The committee recognizes and applauds the present dialogue in Iowa and the nation directed toward improvement of competencies of students completing programs in elementary schools, secondary schools, community colleges, and universities. Recruitment of new teachers of high ability, improvement of abilities of teachers already employed, development of competency-based curricula, provision of state-of-the-art facilities and technology, and improved articulation from level to level and across the curriculum are important to the achievement of educational excellence for Iowa.

Each of these components of educational improvement requires a commitment of time, effort, and financial resources. If it is important to attract new teachers of high ability—and the committee believes it is—it must be recognized that market forces influence the achievement of this goal. Schools must be

able to offer salaries adequate to attract such individuals and retain them in the teaching profession. In Iowa's school districts, such salaries are not generally available.

Some improvement in the educational competencies of graduating students can be made with modest expenditures of additional funds, and every possible effort should be exerted in this direction. The committee believes, however, that a substantial improvement of education in Iowa and the nation can come only through the elevation of education as a local and state and national priority. This requires an increased allocation of financial resources.

The Joint Committee on Instructional Development and Academic Articulation in Iowa recommends that policymakers—including the governor, state legislators, directors of executive branch departments, and community leaders—recognize the importance of achieving excellence in education for Iowa. The committee further recommends that these policymakers, in establishing this priority for educational excellence, allocate the funds necessary to achieve this goal.

SUMMARY

In this report, the Joint Committee on Instructional Development and Academic Articulation in Iowa has reviewed the background literature in the field of academic improvement and articulation. This large and growing body of material reflects an increasing concern that the educational system is somehow failing to fulfill its potential. The committee believes that the recommendations it has made will contribute to the solution of this problem and that, if implemented, they will enhance the quality of education in Iowa.

Many of the recommendations can be accomplished with little or no new resources, but the continuing problems of recruiting and retaining able teachers will require attention to market forces tending to add to this difficult problem. A lasting solution to these problems can be achieved only by raising the salaries of Iowa's teachers to an appropriate level, but substantial progress can also be made by other methods. Improved communication and articulation vertically and horizontally within the educational system is the key.

The committee believes that a unification of basic goals is the governing concept underlying articulation—unification among educational levels, unification among academic disciplines, and unification among institutions both private and public.

A unified specification of basic academic competencies underlies this report. The committee believes that curricular options which deny students the opportunity to develop these basic competencies should not exist. Instead, students in all areas and at different levels of ability should be provided the instructional and other resources needed to acquire them. Preparation for life, for work, and for further education will demand a higher level of competency for future Iowa high school graduates. This does not imply the elimination or de-emphasis of vocational preparation, preparation in the arts, or substantial enrichment for unusually able students.

The attainment of basic educational competencies must be the primary goal of the first 12 years of formal education. If the basic competencies are attained by the vast majority of Iowa high school graduates, articulation with colleges and universities will be enhanced and, in turn, Iowa's citizens will be better prepared to meet the demands of the future.

APPENDIX

BACKGROUND AND MEMBERSHIP: JOINT COMMITTEE

At its June 17, 1982, meeting, the State Board of Regents directed the Board Office, the Committee on Educational Coordination, and the Committee on Educational Relations to work with the Department of Public Instruction and secondary schools in Iowa to study methods by which instruction and articulation might be improved. The Committee on Educational Coordination and the Committee on Educational Relations met on September 1, 1982, and voted to submit a proposal to the Board Office for further exploration with the Department of Public Instruction.

The Committee on Educational Coordination recommended that the two state boards join in a cooperative effort to address matters of mutual concern. The committee noted that while the educational level of Iowa school and college students is among the nation's highest, problems and concerns related to the continued improvement of instruction and articulation should be addressed cooperatively by the boards responsible for public education in the state. To that end, the committee recommended that a joint task force be appointed.

Consultation between the Board Office and the Department of Public Instruction took place, and a proposal was drafted for joint adoption by the State Board of Regents and the State Board of Public Instruction. In January 1983, both boards approved the establishment of a joint study committee based on the following general guidelines:

Purpose

Explore, cooperatively, ways and means to facilitate the continued development of instruction and articulation in the schools and universities of Iowa.

Processes

1. Appoint and convene a joint task force with 13 members composed as follows:
   (1) a local school superintendent;
   (2) a local school principal;
   (3) a guidance counselor (high school level);
   (4) two local school teachers (preferably in the academic areas of primary concern);
   (5) a dean of education from a college or university;
   (6) an academic vice-president (or equivalent) from a college or university;
   (7) two college/university level instructors (preferably from an area related to the concerns to be addressed);
   (8) a representative of the area schools superintendents;
   (9) a representative of each of the two state board staffs;
   (10) a representative of the proprietary/specialized schools.

   In appointing these persons, consideration will be given to achieving a mix of public and private institutions, as well as sex and race. A chairperson will be appointed jointly by the two boards.
2. Impanel subgroups as appropriate.
3. Conduct a study, or studies, with recommendations for the future.
4. Make a progress report by July 1, 1983.

Tasks

The joint task force is charged to:

1. Identify particular issues and specific problems of articulation and instruction;
2. Suggest procedures to effect a resolution of the issues and problems identified;
3. Recommend long-range and short-range responsibilities and activities;

4. Suggest a format for continuing cooperation and development.

The chairperson and members of the task force will be appointed by the boards. It is suggested that the following questions be among those discussed by the task force, recognizing that the task force will establish its own agenda:

1. How can the schools and the institutions of higher education in Iowa work together more effectively to enhance the preparation of students in such areas as mathematics, science, English, and foreign languages?
2. How can preparation and articulation of the college-bound student be improved?
3. How can communication between schools and universities be fostered and developed?
4. What kinds of reciprocal activities between schools and universities could be instituted that will facilitate the development of students and provide for a smooth transition between the secondary school and the university?
5. In what ways can the faculties of the public universities assist in providing for academic enrichment in the elementary and secondary schools of the state?

Committee members, appointed in April and May of 1983, include:

REGENT APPOINTEES

Faculty

Geraldine E. LaRocque
Professor of English and University Liaison for Teacher Education
University of Northern Iowa
Cedar Falls, Iowa

R. Melvin Hendersen
Vice-President for Academic Affairs
Simpson College
Indianola, Iowa

Education Dean/Director

Alfred Schwartz
Dean, College of Education
Drake University
Des Moines, Iowa

Academic Vice-President

Richard D. Remington
Vice-President for Academic Affairs
The University of Iowa
Iowa City, Iowa

Board Office Staff

Robert J. Barak
Director, Academic Affairs and Research
Iowa Board of Regents
Des Moines, Iowa

Private/Specialized Schools

Keith Fenton
President
American Institute of Business
Des Moines, Iowa

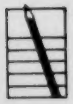
Alternate: Jerrie J. Johnson
Dean of Student Services
American Institute of Business
Des Moines, Iowa

STATE BOARD OF PUBLIC INSTRUCTION APPOINTEES

Teachers

Keith Goedken
Teacher and Chair, English Department
St. Edmond High School
Fort Dodge, Iowa

Pamela F. Fredericksen
Teacher of French
Central High School
Davenport, Iowa



Guidance Counselor

Glenn E. Fear
Guidance Counselor
Tipton High School
Tipton, Iowa

High School Principal

Kenneth Steine, Principal
Prairie High School
College Community School District
Cedar Rapids, Iowa

Merged Area Schools

David L. Buettner, Superintendent
North Iowa Area Community College
Mason City, Iowa

Local Superintendent

William Lepley
Superintendent
Council Bluffs Community School District
Council Bluffs, Iowa

State Board Staff

A. John Martin, Director
Instruction and Curriculum Division
Department of Public Instruction
Des Moines, Iowa

CHRONOLOGY

The first meeting of the committee was held on June 10, 1983, in the State Board Room of the Department of Public Instruction in Des Moines. At this organizational meeting, the committee received its formal charge from Robert D. Benton, state superintendent of public instruction, and organized its deliberations. Richard D. Remington had been designated as chair of the committee and William Lepley as vice-chair. The committee decided to develop and assemble background materials during the summer and, beginning on August 19, to meet approximately every two weeks until the end of the year. Subsequent meetings were held on August 19, September 2, September 16, October 7, October 21, November 4, November 17-18, and December 1-2.

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